

## ON TWO NEW SPECIES OF THALAMITA LATREILLE, 1892 (CRUSTACEA, DECAPODA, BRACHYURA, PORTUNIDAE) FROM CHINA

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**Abstract** Two new species of portunid crabs are reported from the South China Sea, viz. *Thalamita acanthophallus* and *T. xishaensis* (Portunidae, Thalamitinae). Their affinities with allied taxa are discussed in this paper.

**Key words** Portunidae, *Thalamita*, new species, South China Sea.

### 1 Introduction

The portunid genus *Thalamita* Latreille, 1829 is one of the largest genera in the subfamily Thalamitinae Paulson, 1875, with over 90 described species (Edmondson, 1925, 1951; 1954; Montgornery, 1931; Leene, 1938; Stephenson & Hudson, 1957; Crosnier, 1962; 1975, 1984, 2002; Stephenson & Rees, 1967; Stephenson, 1972; 1975; Dai & Yang, 1991; Wee & Ng, 1995; Moosa, 1995; Apel & Spiridonov, 1998; Ng *et al.*, 2008). Members of the genus are well represented in the East China Sea and South China Sea (Sakai, 1976; Dai *et al.*, 1986; Dai & Yang, 1991; Wee & Ng, 1995; Dai, Cai & Yang, 1996; Ng *et al.*, 2001). As a part of our ongoing studies on the Portunidae fauna of China, we recently examined the material in the collections of the Institute of Oceanology, Chinese Academy of Sciences (Qingdao) and Beijing Natural History Museum. Two specimens of *Thalamita* from the South China Sea are proved to be new, and are here described.

The abbreviation G1 is used for the male first gonopod. Measurements (in millimeters), are of carapace length by carapace width. The type specimens are deposited in the Collections of the Institute of Oceanology, Chinese Academy of Sciences (IOCAS).

### 2 Taxonomy

#### Family Portunidae Rafinesque, 1815

#### Genus *Thalamita* Latreille, 1829

*Thalamita acanthophallus* sp. nov. (Figs 1–7)

Material examined. Holotype, male (7.5 by 11.5 mm), IOCAS C01043, Chenhang Island, Xisha Islands (16.18° N, 111.42° E), coll. Zh. G. Fan, 26 Apr. 1958.

Diagnosis. Carapace about 1.5 times as broad as long. All anterior carapace ridges present: frontal and protogastric ridges short; mesogastric ridge longer, interrupted medially; metagastric ridge short, straight.

Epibranchial ridge sinuous, extending to base of epibranchial tooth, separated from metagastric ridge by cervical groove. Cardiac region with sinuous ridge. Front cut into 6 lobes: median ones rounded, separated by a V-shaped notch, lying on a lower plane and distinctly narrower than first lateral lobe; second lateral lobe narrowest, bluntly angular. Supraorbital lobes short, arched. Anterolateral margin with 4 sharp teeth (including outer orbital tooth); decreasing from front to rear in breadth; last one smallest, directed anterolaterally. Posterolateral margin longer than anterolateral margin, slightly converging backwards. Posterior margin straight, joining posterolateral margin as curved margin. Antennal basal segment narrower than orbital breadth, with granular crest.

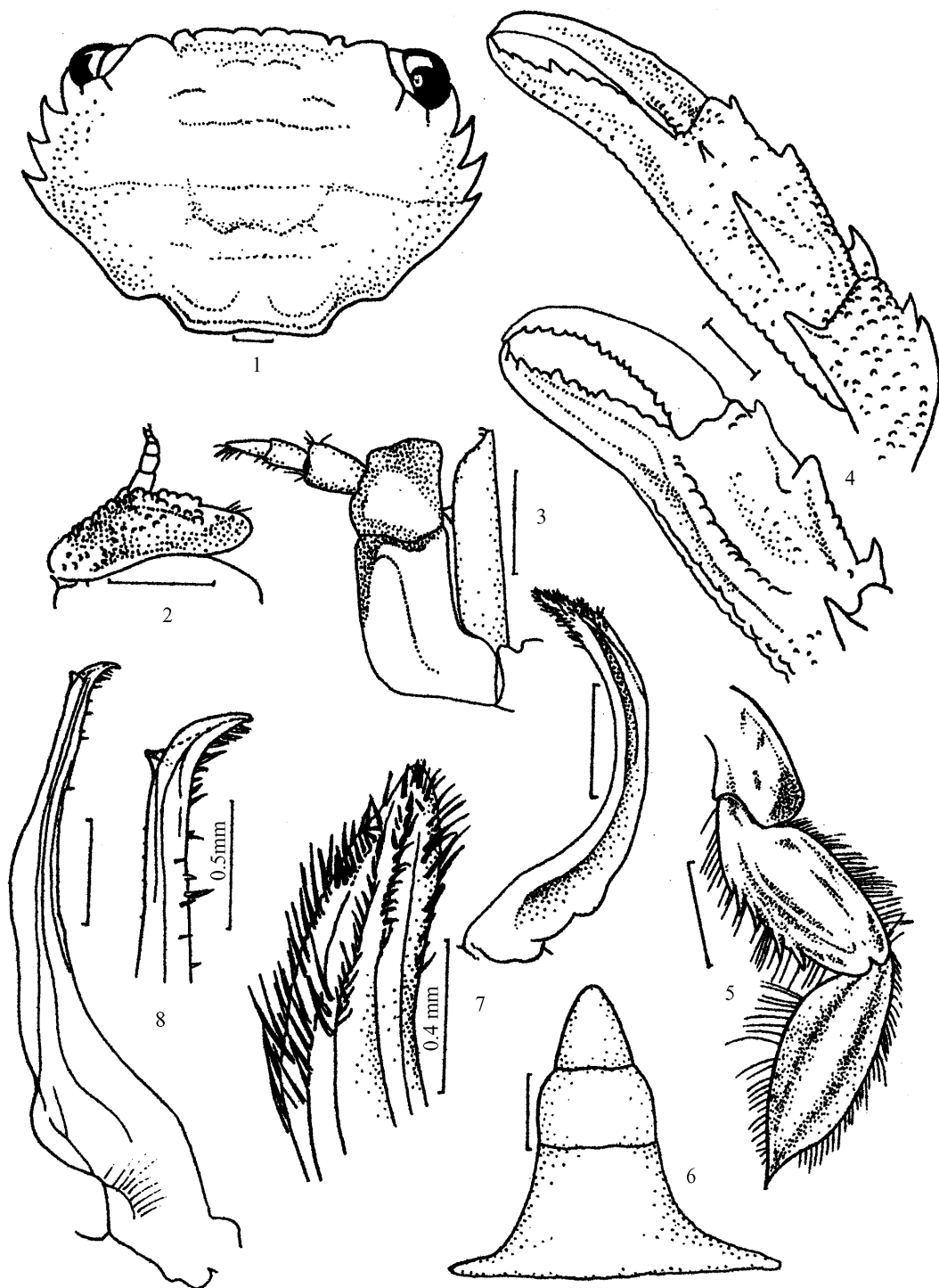
Third maxilliped with exognath broader; about 0.5 times breadth of ischium. Merus shorter than ischium, subquadrate, about as long as broad with outer distal angle rounded, not produced.

Chelipeds covered with granules on outer surface. Carpus with 3 spines on outer surface and a stout, short spine at inner-distal angle. Palm armed with 5 spines on dorsal surface, of which distal spine smaller; with 2 longitudinal ridges on outer surface. Fingers shorter than palm, cutting edges with unequal blunt teeth. Propodus of natatory leg bearing 5 spines; dactylus ovate with spiniform tip.

Male abdomen with third to fifth segments completely fused. Sixth segment trapezoidal, about 1.5 times as broad as long, with lateral margin parallel in proximal half and arched in distal half, breadth of basal margin about 1.5 times as distal margin, Telson triangular, about as long as broad, with blunt tip.

G1 stout, arched, tapering to tip; distal portion with numerous spinules arranged into a few longitudinal rows.

Etymology. The name *acanthophallus* is derived from the Greek for a spiny male reproductive organ (phallus), and refers to the numerous spines in distal



Figs. 1-7. *Thalamita acanthophallus* sp. nov. 1. Carapace. 2. Antennal basal segment. 3. Third maxilliped. 4. Chela. 5. Last 3 segments of natatory leg. 6. Male abdomen. 7. G1. Fig. 8. G1 of *Thalamita multispinosa*. Scale bars = 1 mm, except where indicated otherwise.

portion of the male first gonopod.

**Taxonomic remarks.** In general morphology, *T. acanthophallus* sp. nov. is most similar to *T. danae* Stimpson, 1858, *T. multispinosa* Stephenson & Rees, 1967, and *T. holthuisi* Stephenson, 1975, in its prominently separated six frontal teeth, and the entire first anterolateral tooth. The latter three species, however, are armed with five teeth along the anterolateral

margin, the fourth tooth being small or rudimentary (Stimpson, 1858; Stephenson & Rees, 1967; Stephenson, 1975; Crosnier, 2002). In the new species, there are only four anterolateral teeth without trace of a fifth. In addition, the G1 of *T. acanthophallus* is distinctly stouter and shorter, tapering to a blunt tip, and its distal portion bears numerous spines, arranged backwards in a few longitudinal rows. The G1 of *T.*

*danae*, *T. multispinosa* and *T. holthuisi* are distinctly slender. Moreover the G1 of *T. multispinosa* has a flared tip (Fig. 8); the G1 of *T. danae* has only a row of bristles on the inner surface of the distal portion besides a clump of bristles on the outer surface (Stephenson and Hudson, 1957: figs. 2N, 3N; Dai & Yang, 1991: fig. 134 (2); Wee & Ng, 1995: figs. 42G-I); and the G1 of *T. holthuisi* has 7 short stout bristles followed by 6-12 elongate bristles on outer side of the subterminal portion and extending to underside, and the inner side with 10-15 spines forming an extended row (Stephenson, 1975: figs. 4D-F). *T. aanthophallus* sp. nov. also differs from the latter 3 species by having the sixth segment of the male abdomen distinctly shorter.

*Thalamita xishaensis* sp. nov. (Figs 9-16)

Material examined. Holotype male (8.1 by 13.5 mm), IOCAS C01042, Yongxing Island, Xisha Islands (16°50' N, 112°20' E), coll. CHEN, Hui-Lian, 5 June 1981.

Diagnosis. Carapace about 1.7 times as broad as long, densely covered with granules and setae. Protogastric and mesogastric ridges distinct; metagastric ridge short, straight, separated from epibranchial ridge by cervical groove. Epibranchial ridge extending to base of epibranchial tooth. Cardiac and mesobranchial regions each with a ridge. Front cut into 4 lobes: median lobes straight, inclined laterally outward, separated by a deep V-shaped notch; lateral lobes triangular, much narrower than median lobes. Supraorbital lobes narrow, arched. Anterolateral margin with 5 sharp teeth (including outer orbital tooth), second tooth largest, fourth smallest, last tooth longest, clearly produced beyond other teeth. Posterolateral margin longer than anterolateral one, concave, converging posteriorly. Posterior margin slightly convex, forming a blunt angle with posterolateral margin. Antennal basal segment narrower than orbital breadth, with granulated crest.

Third maxilliped with ischium about 1.5 times as long as broad. Merus subquadrate, broader than long, with outer distal angle slightly produced; palp relatively stout.

Chelipeds unequal, covered with coarse granules on dorsal and outer-lateral surfaces. Merus with inner margin bearing 3 acute spines medially, proximal portion serrated, distal portion smooth. Carpus armed with 3 spines on outer surface, inner distal spine elongate, slender. Palm armed with 5 spines on dorsal surface, distal spines much smaller; outer surface with 3 longitudinal ridges. Finger stout; immovable finger shorter than palm, movable finger equal to latter, cutting edges with unequal blunt teeth. Natatory leg with propodus bearing 5 spines; dactylus slender with about

20 spines on anterior border and 4 spines on posterior border; tip spiniform.

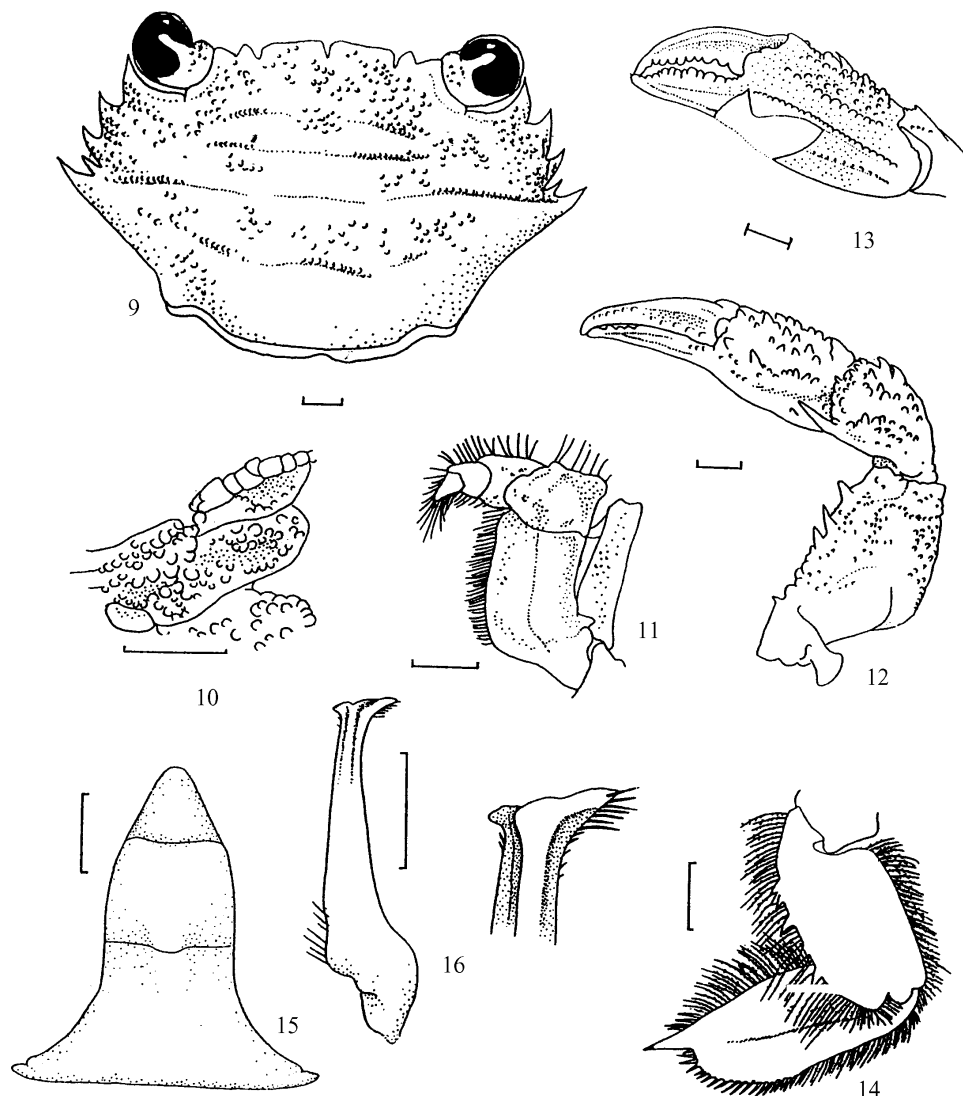
Male abdomen with third to fifth segments completely fused. Sixth segment trapezoidal, clearly broader than long, with lateral margin slightly arched, breadth of basal margin about 1.3 times length of distal margin. Telson triangular, tip blunt.

G1 stout, distal portion flared, outer surface of tip with 7 long spines and a few small spines; inner surface with 2 small spines.

Ecology. Inhabits sand and rocky bottom along the coast, in coral reef, and in shallow water.

Etymology. Named in reference to the type locality.

Taxonomic remarks. *Thalamita xishaensis* sp. nov. is perhaps most similar to *T. nanshaensis* Dai, Cai & Yang, 1996, and *T. wakensis* Edmondson, 1925 (Edmondson, 1925; Dai, Cai & Yang, 1996; Grosnier, 2002). It differs from *T. nanshaensis* in the following: 1) the carapace is covered with granules on most parts of the dorsal surface [versus granules present only on the front and anterolateral portions of the dorsal surface (Dai, Cai & Yang, 1996: figs. 5-1)]; 2) the merus of the cheliped is stout and short, the palm possessing five spines on the dorsal surface, and the movable finger is equal to the dorsal border of the palm [versus the merus of the cheliped is elongate and slender, the palm has just two spines and a few tiny teeth, and the movable finger is distinctly longer than the dorsal border of the palm (Dai, Cai & Yang, 1996: figs. 5-4, 5)]; 3) the merus of the maxilliped is subquadrate, broader than long with the outer distal angle produced, and the palp is quite stout [versus the merus is subtrapezoidal, as broad as long, the outer distal angle is not produced and the palp is relatively more slender (Dai, Cai & Yang, 1996: figs. 5-3)]; 4) the male abdomen is proportionately broader and shorter, the third to fifth abdominal segments are completely fused, the length of the third to seventh segments is about 2.5 times the breadth of the sixth segment, the sixth segment is trapezoidal in shape, with the lateral margin slightly arched, and the breadth of the basal border is about 1.3 times that of the distal border [versus the male abdomen is relatively more elongate and slender, the third to fifth abdominal segments are fused but the remnant sutures can still be discerned between the segments, the length of the third to seventh segments is about three times the breadth of the sixth segment, the sixth segment is subquadrate, with the lateral margin parallel in most parts, and the breadth of the basal border is about 1.5 times that of the distal border (Dai, Cai & Yang, 1996: figs. 5-7)]; and 5) the distal portion of the G1 has two small spines on the inner surface [versus numerous spines (Dai, Cai & Yang, 1996: figs. 8, 9)].



Figs 9-16. *Thalamita xishaensis* sp. nov. 9. Carapace. 10. Antennal basal segment. 11. Third maxilliped. 12. Cheliped. 13. Chela. 14. Last 2 segments of natatory leg. 15. Male abdomen. 16. G1. Scale bars = 1mm, except where indicated otherwise.

It differs from *T. wakensis* in the following: 1) the median frontal lobes normal [versus median frontal lobes each divided into 2 small lobes (Edmondson, 1925: fig. 7a; Sakai, 1976: figs. 197a; Crosnier, 2002: fig. 27A-C)]; 2) the penultimate anterolateral tooth is smaller than the others, but still obvious [versus the penultimate anterolateral tooth rudimentary (Edmondson, 1925: fig. 7a; Sakai, 1976: figs. 197a; Crosnier, 2002: fig. 27A)]; 3) the posterior border of the propodus of the natatory leg bears seven to eight sharp spinules [versus the posterior border of the propodus of the natatory leg with five sharp spinules (Edmondson, 1925: fig. 7D)].

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中国短桨蟹属 (十足目, 短尾次目, 梭子蟹科) 二新种

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摘 要 记述梭子蟹科 Portunidae, 短桨蟹属 *Thalamita* 2 新种, 即刺肢短桨蟹 *T. acanthophallus* 和西沙短桨蟹 *T. xishaensis*。

刺肢短桨蟹, 新种 *T. acanthophallus* **sp. nov.** (图 1~ 8)

在整体形态上, 新种最相似于 *T. danae* Simpson, 1858, *T. multispinosa* Stephenson & Rees, 1967, and *T. holthuisi* Stephenson, 1975. 新种与后 3 种的区别在于: 新种头胸甲只有 4 枚前侧缘, 而后 3 种具 5 齿, 而; 雄性腹部第 6 节明显短于其它 3 种; 雄性第 1 腹肢形态与后 3 种明显不同。

词源: 新种种名 *acanthophallus* 来源于希腊文, 意指繁殖器官雄性第 1 腹肢末部具众多刺。

关键词 梭子蟹科, 短桨蟹属, 新种, 南中国海.

中图分类号 Q959.223.63

西沙短桨蟹, 新种 *T. xishaensis* **sp. nov.** (图 9~ 16)

新种最相似于 *T. nanshaensis* Dai, Cai & Yang, 1996, and *T. wakensis* Edmondson, 1925. 但新种与 *T. nanshaensis* Dai, Cai & Yang, 1996, 在头胸甲上的颗粒分布, 螯足、第 3 颚足、雄性腹部及雄性第 1 腹肢的形态等均有明显差异. 新种与 *T. wakensis* 的区别主要在于额齿、头胸甲前侧齿的形态, 以及游泳足前节后缘的齿数。

词源: 新种种名意指模式标本产地。

模式标本采自南中国海西沙群岛, 并保存在中国科学院海洋研究所。